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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,979	08/22/2003	Ann Louise McCormack	KCX-1125 (19615)	1058

7590 10/28/2008

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EXAMINER	
MATZEK, MATTHEW D	
ART UNIT	**PAPER NUMBER**
1794	
MAIL DATE	**DELIVERY MODE**
10/28/2008	PAPER

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/646,979
Filing Date: August 22, 2003
Appellant(s): MCCORMACK ET AL.

Stephan E. Bondura
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 8/25/2008 appealing from the Office action mailed 7/14/2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct and begins on page 12.

(8) Evidence Relied Upon

6,106,956	HEYN et al.	8-2000
6,045,900	HAFFNER et al.	4-2000

6,447,875	NORQUIST et al.	9-2002
2003/0171054	BANSAL	9-2003

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

A. Claims 1-5 and 7-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heyn et al. (US 6,106,956) in view of Haffner et al. (US 6,045,900) and Norquist et al. (US 6,447,875 B1) as presented in the previous Office Action.

i. Heyn et al. teach a polymeric film comprising at least first and second contiguous and coextruded portions, wherein the first portion contains filler to increase its water vapor permeability and the second portion serves to improve the tensile strength of the film (Abstract). The first portion (carrier resin) of the film may be made of linear low-density polyethylene copolymer (LLDPE) (col. 2, lines 52-67). It is preferred that the carrier resin contains 65 weight percent or less filler (col. 3, lines 60-65). The second portion (letdown resin) may be made of the same or a different type of polyolefin and as with the first resin the preferred composition is LLDPE. The second portion preferably contains no filler (col. 4, lines 26-39). The LLDPE used in this film is to have a density of about 0.900 to about 0.935g/cm^3 and a melt index of about 0.1 to about 5.0 grams per 10 minutes (col. 3, lines 10-15). The applied film meets the instantly claimed moisture vapor transmission rates (col. 6, lines 49-56) for diaper backsheets. The applied

reference is silent as to the use of a nonwoven support layer to be bonded to the oriented film. Instant claim 1 requires different ethylene copolymers with a density difference of at least 0.003 g/cc between the carrier and letdown resins. Heyn et al. provide that the density of the ethylene copolymers may vary from 0.900 to about 0.935g/cm^3 and that the same or different copolymers may be used in the separate phases. As stated in the abstract the polymers used in each phase have different physical properties in order for separation to occur between the two phases. Heyn et al. fail to teach or suggest having the discrete regions of carrier resin phase completely intermixed with and surrounded by the letdown resin phase and the addition of a nonwoven layer.

ii. Haffner et al. teach a breathable barrier comprising a film layer comprising a filled film comprising about 50 to 70% calcium carbonate (col. 8, lines 23-25) and ethylene polymer (Abstract) and another layer comprising a nonwoven, spunbonded or bonded carded web layer (col. 3, lines 50-52). The laminate has a WVTR (MVTR) of more than 1500 g/m^2/day (col. 3, lines 34-37). Example 1 teaches the use of calcium carbonate (filler), LLDPE [carrier resin] (density of 0.918 g/cm^3 and a melt index of 3.5 g/10 min) and a LDPE [letdown resin] (density of 0.916 g/cm^3 and a melt index of 12 g/10 min). Examiner takes the position that the filler is necessarily contained within the carrier resin phase as the filler is mixed with the carrier resin and then formed into a layer. Haffner et al. teach the blending of LLDPE with densities desirably ranging from 0.86-0.88 g/m^3 with a second polyethylene ranging from 0.90 to 0.95 g/m^3 (col. 9, lines 1-5 and col. 10, lines 1-11) to form an intermediate layer that may also contain filler that

is similar in type and content to that of the breathable layer (col. 10, lines 48-58). This provides for density differences of up to 0.09 g/cm^3.

iii. The basis weight of the film layer desirable ranges from 15-35 g/m^2 (col. 10, lines 59-64). An extensive list of ethylene (polyolefin) polymers has been disclosed including linear low-density polyethylene (LLDPE) (col. 7, line 49 – col. 8, line 8). The nonwoven layer may comprise spunbonded and bonded carded webs (col. 3, lines 46-52).

iv. Claims 17 and 18 are rejected as the nonwoven woven layer may comprise multilayer nonwoven laminates (col. 11, lines 4-10). Claims 19 and 20 are rejected as the film layer may comprise multiple layers **12** (Fig. 1). Claim 25 is rejected as the base layer **14** comprises from about 50% to about 98% of the multilayer film thickness (col. 10, lines 66-67). Claims 26 and 27 are rejected as the breathable barrier of Haffner et al. may be used in garments and personal care products (col. 1, lines 14-17).

v. It is noted herein that the teachings of Haffner et al. include WVTR in excess of 1500 g/m^2/day. It is the Examiner's interpretation that such a teaching encompasses the ranges of 5,000 and 10,000 g/m^2/day as claimed herein. The use of material with high WVTR is recognized in the art of breathable barriers as it is evidenced herein by Haffner et al. The larger the WVTR value the greater the ability for the article to allow water vapor to be expelled from the article. This is highly desirable as the article is intentionally created for its breathability.

vi. Since Heyn et al. and Haffner et al. are from the same field of endeavor (i.e. filler filled LLDPE films), the purpose disclosed by Haffner et al. would have been recognized in the pertinent art of Heyn et al.

vii. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have bonded the film of Heyn et al. to the support layer of Haffner et al. as well as make the article according to the basis weights and density and melt flow index differences of Haffner et al. The skill artisan would have been motivated by the desire to create a breathable article that is capable of being used in personal absorbent articles.

viii. Norquist et al. disclose a die apparatus that allows for the production of co-extruded polymeric articles with a plurality of distinct, discontinuous phases located within a surrounding matrix (abstract and Figure 4). Polyolefins may be used in the creation of the co-extruded article, for example the embedded phase may comprise polyethylene and the surrounding matrix may comprise polypropylene (claim 4). Various additives may be incorporated into the embedded phase to modify the properties of the finished web (col. 11, lines 56-60). Co-extruded webs formed using the apparatus and method of the invention are also suitable for use in various medical articles. In certain embodiments, phases are formed in the web matrix in order to provide increased strength and improved handling without affecting the overall conformability, transparency or breathability of the polymeric material. A preferred web matrix material for use in constructing such medical articles is polyethylene and a preferred embedded phase material is also polyethylene (col. 14, lines 48-65). Norquist et al. disclose that the embedded phase is in fact a plurality of discrete embedded phases spaced apart from one another and are surrounded by a continuous matrix as instantly claimed (col. 13, lines 40-59).

ix. Since Heyn et al. and Norquist et al. are from the same field of endeavor (i.e. co-extruded polymeric films), the purpose disclosed by Norquist et al. would have been recognized in the pertinent art of Heyn et al.

x. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have made the co-extruded film of Heyn et al. in the manner set forth in Norquist et al. The skill artisan would have been motivated by the desire to provide the co-extruded film of Heyn et al. with increased strength and improved handling without affecting the overall conformability, transparency or breathability of the polymeric material (col. 14, lines 47-55).

B. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heyn et al. (US 6,106,956) in view of Haffner et al. (US 6,045,900) and Norquist et al. (US 6,447,875 B1) as applied to claim 1 above, and further in view of Bansal (US 2003/017054 A1). The inventions of Heyn et al., Haffner et al. and Norquist et al. are silent as to the use of an ethylene with a melt index of at least 20g/10min as presented in the previous Office Action.

i. Bansal discloses a multiple component spunbonded web and laminates thereof comprising a LLDPE core component (abstract) that has a density between 0.91 and 0.95 g/cc and a melt index between 18g/10min to 22 g/10min [0013].

ii. Since Heyn et al. and Bansal are from the same field of endeavor (i.e. co-extruded polymers), the purpose disclosed by Bansal would have been recognized in the pertinent art of Heyn et al.

iii. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to have made the co-extruded film of Heyn et al. having the

carrier resin being a polyethylene with a melt index of at least about 20 g/10 min. The skill artisan would have been motivated by the desire to create a product with superior grab tensile strength and minimized surface fuzzing [0026].

(10) Response to Argument

A. Appellant's arguments filed 8/25/2008 have been fully considered but they are not persuasive.

B. Appellant argues that Heyn et al. cannot provide the claimed structure because the applied reference produces a co-extruded side-by-side film. As pointed out by Appellant, Examiner has acknowledged this and relied on Norquist to teach a carrier resin phase completely intermixed and surrounded by the letdown resin phase.

C. Appellant argues that Norquist et al. fail to provide for the claimed structure in that the ends of the embedded phases **59** are co-extensive with the upper and lower layers **61**, **63** and are never surrounded by said upper and lower layers and as such each of these discrete regions of carrier resin phase **59** is not intermixed and surrounded by the letdown resin phase **61**, **63**. Figure 7A illustrates carrier resin phase **84** being surrounded by letdown resin phase **86**. The illustrated figure is a cross-section of the invention that clearly demonstrates that carrier resin phase is surrounded by the letdown phase, but it does not demonstrate whether or not the carrier resin is encapsulated at the ends of the invention. Appellant is directed to col. 13, lines 40-59 of Norquist et al. which discloses that the discrete phases **84** are surrounded by the continuous matrix **86** and encapsulated within said matrix. Appellant and Norquist et al. both utilize the same language to describe the discrete phases that are surrounded and encapsulated by another phase and as such one of ordinary skill in the art would reasonably conclude that the teachings of

Norquist et al. provide for Appellant's limitation of "discrete regions of the carrier resin phase is completely intermixed with and surrounded by the letdown resin phase".

D. Appellant argues that a substantial portion of the filler contacts the letdown resin phase in a film extruded according to Heyn et al. and thereby does not meet the limitation of having substantially all of the filler being separated from contact with the letdown phase. As set forth *supra*, Examiner has relied upon Norquist et al. for the method used to make the film with the carrier phase intermixed and encapsulated within the letdown phase and Heyn et al. disclose the selective incorporation of filler into only one phase of the film.

E. Appellant argues that since the discrete phases of Norquist et al. are intended to resist tearing of the web in the transverse direction, the discrete embedded phases must be continuous strands that run down the entire length of the web and are never completely surrounded by the continuous phase. As Examiner set forth previously, Appellant and Norquist et al. both utilize the same language to describe the discrete phases that are surrounded and encapsulated by another phase and as such one of ordinary skill in the art would reasonably conclude that the teachings of Norquist et al. provide for Appellant's limitation of "discrete regions of the carrier resin phase is completely intermixed with and surrounded by the letdown resin phase".

F. Appellant argues that Norquist et al. fail to provide for including filler within the ultra-low density polyethylene, nor do Norquist et al. suggest isolating any such filler from contact with the polypropylene matrix. As set forth *supra*, Examiner has relied upon Norquist et al. for the method used to make the film with the carrier phase intermixed and encapsulated within the letdown phase and Heyn et al. disclose the selective incorporation of filler into only one phase of the film.

G. Appellant argues that Examiner's interpretation of Haffner et al. to provide the claimed permeability is unreasonable and erroneous. Haffner et al. disclose an article that has a WVTR in excess of 1500 $g/m^2/day$ and Appellant has claimed a MVTR (equivalent to WVTR) of about 5000-10,000 $g/m^2/day$. Examiner has taken the position that Haffner et al. do provide for the claimed permeability in that the values greater than 1500 are provided for and that high permeability is desirable. Therefore, one of ordinary skill in the art would have arrived at the claimed permeability.

H. Appellant argues that the Bansal web is not composed of a LLDPE core component and the reference teaches that using a melt index of greater than 22 g/10min can be complicated, therefore one of ordinary skill in the art at the time the invention was made would not have looked to Bansal to use a LLDPE of the claimed melt index. Paragraph 0026 of Bansal provides clear motivation to use LLDPE of higher melt index (greater than 20 g/10min), which is the teaching Examiner has relied upon. The fact that the high melt index polymer is used with another component demonstrates that it may be used in a co-extrusion process. The formation of core-sheath fibers is analogous to the formation of the co-extruded films in that they both rely on multiple phases of polymers in conjunction to form a continuous construct.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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